

CRIGHEL, E.; NESTIANU, V.

Electroencephalographic studies of cortical reactivity; type of cortical response to intermittent light stimuli. Bul. Stiint., sect. med. 9 no.1: 211-228 1957.

(CEREBRAL CORTEX, physiology

response to intermittent light stimuli, eff. of caffeine & amphetamine, EEG study, in cats)

(CAFFEINE, effects

on cortical responses to intermittent light stimuli, EEG study, in cats)

(AMPHETAMINE, effects

same)

RUMANIA / Human and Animal Physiology (Normal and Patho-  
logical). Blood. Blood Pressure. Hypertonia T

Abs Jour: Ref Zhur-Biologiya, No 21, 1958, 9752<sup>1</sup>

Author : Nitescu, I. I., Zamfirescu, N., Nestianu, V.

Inst : Not given

Title : Influence of Carbon Dioxide on Arterial Pressure  
of Curarized and Narcotized Dogs

Orig Pub: Studii si cercetari fiziol. Acad. RPR, 1957,  
2, No 3-4, 267-276

Abstract: Inhalation of mixtures with a high content of  
CO<sub>2</sub> induced in curarization dogs an increase in  
blood pressure proportional to CO<sub>2</sub> concentration.  
Chloralose, luminal, urethane, and chlorpromazine  
removed or perverted pressure effect of CO<sub>2</sub>; it

Card 1/2

Country : ROMANIA  
Category: Human and Animal Physiology. Nervous System.  
Cerebral Cortex

Abs Jour: RZhBiol., No 19, 1958, 89210

Author : Crighel, E.; Nestianu, V.  
Inst : Rumanian Academy, Institute of Neurology.  
Title : Electrencephalographic Investigation of the Trigger  
Mechanism of the Experimental Convulsive Attack  
Produced by Pentamethylenetetrazol

Orig Pub: Studii si cercetari neurol. Acad. RPR, Inst. neurol.  
1957, 2, No 2, 205-216

Abstract: Investigation of the electrical activity of the  
cerebral cortex of a cat by stimulation with an  
interrupted light stimulus demonstrated that fol-  
lowing the injection of pentamethylenetetrazol the

Card : 1/2

T-91

RUMANIA / Human and Animal Physiology (Normal and Pathological). T  
Nervous System.

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 60777

the return of the EEG to normal following the clamp application on the carotid arteries, a series of slow waves appeared again, and remained during the compression time and for some time after the release of pressure. In control animals the compression of the carotid arteries did not produce any changes in the EEG. The lability in the excitation of the cortical cells after I injection thus appeared to be more lasting in animals with a disturbed cerebral circulation. The change in cortical cell excitability manifested by the appearance of slow waves is related to the I effect on the retiform formation and on the reactivity of the carotid sinus. -- E. M. Sheynbaum

Card 2/2

RUMANIA / Human and Animal Physiology (Normal and Pathological).  
Nervous System.

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 60777

Author : Sager, O.; Nestianu, V.; Chivu, V.; Flores-Clocoiu, V.  
Inst : Rumanian Academy, Institute of Neurology  
Title : Chlorpromazine (Largactil) Effect on the EEG of Animals  
with Normal and Pathological Cerebral Circulation

Orig Pub : Studii si cercari neurol. Acad. RPR. Inst. neurol.,  
1957, 2, No 1, 35-52

Abstract : Chlorpromazine (I) was injected into 18 dogs and the EEG was recorded before and after the compression of both carotid arteries. I was introduced also into the perfusion fluid of the carotid sinus and into the III ventricle of the brain. I produced slow waves in the curarized animals, layered on the almost normal base rhythm even when the blood pressure was not lowered. After

Card 1/2

• RUMANIA/Human and Animals Physiology - (Normal and Pathological). T  
Blood Circulation. Heart.

Abs Jour : Ref Zhur Biol., No 4, 1959, 17429

was more significant. In dogs to which only curare was introduced, the stimulation of the cortex induced a considerable and prolonged increase of blood pressure which was combined either with a decrease of systolic volume or with dilatation of the heart, especially in strong elevation of blood pressure. The introduction of luminal, yochimbine and chlorpromazine strongly decreased or even completely removed the changes induced by stimulation of the cerebral cortex. The aboveindicated changes of heart contractibility and arterial pressure, as well as the tachycardia noted in a majority of the experiments, indicate an effect of sympathetic type obtainable by stimulation of the motor region of the cortex. -- From the author's resume.

Card 2/2

RUMANIA/Human and Animal Physiology - (Normal and Pathological). T  
Blood Circulation. Heart.

Abs Jour : Ref Zhur Biol., No 4, 1959, 17429

Author : Nitescu, I.I., Zamfirescu, N., Nestianu, V.

Inst : -

Title : Experimental Investigation of the Size of the Heart.  
The Influence of Electric Stimulation of the Cortex of  
Large Hemispheres on the Heart Volume and Blood Pressure.

Orig Pub : Studii si cercetari fiziol., Acad. RPR, 1957, 2, No 1-2,  
25-33

Abstract : The influence of electric stimulation of the cortex of  
the large hemispheres in the region of the anterior sym-  
moid sulcus on the volume of the heart and blood pressure  
was investigated in dogs. In narcotised dogs, a decrease  
of systolic volume was noted at the time when the increa-  
se of pressure was insignificant, or an increase of dias-  
tolic volume at the time when the increase of pressure

Card 1/2

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RUMANIA/Human and Animal Physiology - Nervous System.  
Epilepsy.

T-10

Abs Jour : Ref Zhur - Biol., No 7, 1958, 32180  
Author : Voiculescu, V., Brosteanu, R., Voinescu, I., Nestianu, V.  
Inst : -  
Title : On the Possibility of Cause of Convulsion by Acetylcholine.  
Orig Pub : Bul. stint. Sec. med., 1956, 8, No 2, 417-431

Abstract : During epilepsy caused in rabbits and cats by electric shock or by pentamethylentetrazol, contractions of muscles are characterised by sharpness, rhythm, rapidity and synchronism for different muscle groups. During convulsions caused by injection of 4 mg of acetylcholine (I), contractions of muscles lost the sharpness, were slowed down, irregular and not synchronous. A causes no epileptic potentials on the EEG. Thus, the introduction of I leads to motor excitability but not to convulsions.

Card 1/1

KREINDLER, A., Academician; VOICULESCU, V.; BRONSTEANU, R.; VOINESCU, I.;  
NESTIANU, V.

Electroencephalographic study of the role of the diencephalon in  
the mechanism of development and cessation of convulsive seizures.  
Bul. stiint. sect. med. 8 no.1:71-99 Jan-Mar 56.

- (EPILEPSY, experimental  
induced by diencephalic lesions & electroshock,  
mechanism of develop. & cessation of convulsions )
- (DIENCEPHALON, surgery  
exper. lesions inducing epilepsy, mechanism of develop.  
& cessation of convulsion.)
- (CONVULSIONS, experimental  
induced by electroshock & diencephalic lesions, mechanism  
of develop. & cessation)
- (ELECTROENCEPHALOGRAPHY, in various dis.  
exper. convulsions & epilepsy induced by electroshock &  
diencephalic lesions)

*NESTIANU, V.*  
ROMANIA/Human and Animal Physiology - The Nervous System.

Abs Jour : Ref Khur - Biol., No 4, 1956, 10561

Author : E. Crighel, A. Brateanu and V. Nestianu

Inst : -

Title : Electroencephalographic Examination of Cortical Activity  
in States of Increased Excitability.

Orig Pub : Commun. Acad. RPR, 1956, 6, No 10, 1401-1406

Abstract : After cats were injected with caffeine, and with picrotoxin particularly, a sudden increase was observed in the average values of the latent period of cortical responses to stimulation with a blinking light. The standard deviations also increased noticeably.

Card 1/1

*NESTIANU, V*  
 RUMANIA/Human and Animal Physiology - The Nervous System.

7-8

Abs Jour : Ref Zhur - Biol., No. 4, 1958, 18564

Author : L. Crighel, N. Brotesanu and V. Nestianu

Inst : -

Title : Electroencephalographic examination of cortical reactivity.  
 The effect of Chlorpromazine.

Orig Pub : Commun. Acad. Sci., 1958, 6, No. 7, 657-662

Abstract : In the first five minutes after rats were injected intravenously with chlorpromazine, a reduction was observed in the latent period of cortical reactivity to light, and then a brief increase in the latent period. During convulsive seizure the changes in reactivity were the same as in the control animals.

Card 1/1

NESTIANU, V.; KRETNDLER, A.; IONASESCU, V.

Influence of the focus of temporal epilepsy on the bioelectric activity of the cerebral cortex. p. 717. Academia Republicii Populare Romine. COMUNICARILE. Bucuresti. Vol. 6, no. 5, May 1956.

SOURCE: East European Accessions List (EEAL) Library of Congress.  
Vol. 5, no. 9, Sept. 1955

RUMANIA/Human and Animal Physiology - Nervous System

V-12

Abs Jour : Ref Zhur - Biol., No 1, 1958, 4439

stimuli brought about a drop below the level of LP cortical response to the first stimulus. The length of LP was in direct proportion to the length of the light stimulus and in reverse proportion to the frequency of stimulation. Changes of LP do not depend on the reactivity of the retina but reflect the properties of the cerebral cortex.

Card 2/2

*NESTIANU, V.*

RUMANIA/Human and Animal Physiology - Nervous System. V-12

Abs Jour : Ref Zhur - Biol., No 1, 1958, 4439

Author : E. Creghel, R. Brosteanu and V. Nestianu

Inst : Institute of Neurology, Rumanian Academy of Sciences

Title : Electroencephalographic Study of Cortical Reactivity  
I. Changes in the Curve of Latent Cortical Response  
to Intermittent Light Stimuli.

Orig Pub : Studii si cercetari neurol., 1956, 1, No 3-4, 299-316

Abstract : In order to conduct a more thorough investigation of  
cortical reactivity it has been suggested that the la-  
tent period (LP) of cortical response to each stimulus  
be considered in addition to the assimilation of the  
rhythm and the LP of this assimilation. In cats not  
subjected to narcosis, the initial stimuli of rhythmical  
light stimulation caused increased LP while subsequent

Card 1/2

KREINDLER, A., academician; VOICULESCU, V.; BROSTMANU, R.; VOINESCU, I  
NESTIANU, V.

Electrophysiological study of the changes in nociceptive spinal  
reflex induced by electroconvulsive seizures in cats. Bul. stiint.  
sect.med. 7 no.1:21-35 Jan-Mar '55.

(CONVULSIONS, experimental

electrically induced in cats, eff. on nociceptive  
spinal reflex)

(REVIEWS

nociceptive spinal reflex, in cats, eff. of electroshock)

(ELECTRICITY, effects

exper.convulsions, in cats, eff. on nociceptive spinal  
reflex)

NESTIANU, V.

Electroencephalographic studies on cortical reactivity;  
latency of responses from various cortical parts to intermittent  
luminous stimuli. p. 1217. COMUNICARILE. Bucuresti. Vol. 5,  
no. 8, Aug. 1955.

SOURCE: EAST EUROPEAN ACCESSIONS LIST (EEAL) Library of Congress  
Vol. 5, No. 7, July 1956.

NESTIANU, V.; CRIGHEL, E.; BROSTEANU, R.

Electroencephalographic research on cortical reactivity:  
variations of the curve of the latent period of cortical  
reactions to intermittent luminous stimuli, role of  
experimental spasmodic attacks and barbituric sleep. p. 1013  
Academia Republicii Populare Romine. COMUNICAILLE.  
Bucuresti.  
Vol. 5, no. 6, June 1955.

SOURCE: East European Accessions List (EEAL) Library of Congress,  
Vol. 5, No. 12, December 1956

NESTIANU, V.; KRIGHEL, E.; BROSTEANU, R.

Experimental studies on the theta rhythm in  
electroencephalograms. p. 1003  
Academia Republicii Populare Romine. COMUNICARILE.  
Bucuresti.  
Vol. 5, no. 6, June 1955

SOURCE: East European Accessions List (EEAL) Library of Congress,  
Vol. 5, No. 12, December 1956

ATANASIU, G.; NESTIANU, T.; BUCUR, Il.; ZUGRAVESCU, D.

Regional magnetic researches in northwestern Transylvania. Note 5-a.  
The 1957 campaign. Studii cer.fiz. 10 no.4:643-649 '59.

(EEAI 9:5)

1. Membru corespondent al Academiei Republicii Populare Romine  
(for Atanasiu).

(Transylvania--Magnetism, Terrestrial)

*Nestervodskiy, B.V.*

YEVFUSHENKO, N.Ye., inzhener; NESTERVODSKIY, B.V., inzhener.

KZU-0, 3 universal ditcher-grader. Sel'khoz mashina no.8:14-16  
Ag '57. (MLRA 10:8)

1.Gosudarstvennoye spetsial'noye konstruktorskoye byuro.  
(Excavating machinery)

VASHKOV, V.I.; SHNAYDER, Ye.V.; ZAKOLODKINA, V.I.; BRIKMAN, L.I.; CHUBKOVA, A.I.  
ALIMBARASHVILI, TS.N.; BABAYANTS, G.A.; BERIANIDZE, I. Sh.;  
ZAKHAROV, P.V.; ISAAKYAN, A.G.; LEVIYEV, P. Ya.; MARTINSON, M.E.;  
MRACHKOVSKIY, S.K.; NAYDICH, N.L.; NESTERVODSKAYA, Ye.M.;  
RAZMANOVA, Ye.M.; SAVINA, K.V.; SERGEYEVA, A.V.; SOKOLOVA, M.Ye.;  
FOMICHEVA, V.S.; CHERNYSHEVA, V.A.; SHUMILOVA, T.V.

Sensitivity of houseflies to chlorophos prior to its use.

Zh. mikrobiol. 40 no.7:3-7 J1'63

(MIRA 17:1)

VASHKOV, V.I.; SHNAYDER, Ye.V.; BRIKMAN, L.I.; ZAKOLODKINA, V.I.; CHUBKOVA, A.I.; ALIMBARASHVILI, TS.N.; BABAYANTS, G.A.; BERIANIDZE, I.Sh.; ZAKHAROV, P.V.; ISAAKYAN, A.G.; LEVIYEV, P.Ye.; MARTINSON, M.E.; MRACHKOVSKIY, S.K.; NAYDICH, N.L.; NESTEROVODSKAYA, Ye.M.; RAZMANOVA, Ye.M.; SAVINA, K.V.; SERGEYEVA, A.Ye.; SOKOLOVA, M.Ye.; FOMICHEVA, V.S.; CHERNYSHOVA, V.A.; SHUMILOVA, T.V.

Sensitivity to DDT of houseflies in various climatic zones of the USSR. Zhur.mikrobiol., epid.i immun. 33 no.8:20-24 Ag '62.

(MIRA 15:10)

1. Iz TSentral'nogo nauchno-issledovatel'skogo dezinfektsionnogo instituta.

(FLIES--EXTERMINATION) (DDT)

ZINCHENKO, V.S.; NESTERVODSKAYA, Ye.M.

Problem of the role of the fly factor in seasonal outbreaks of  
dysentery. Zhur.mikrobiol. epid. i immun. 27 no.10:33 0 '56.  
(MIRA 9:11)

(DYSENTERY, BACILLARY, transmission,  
by mice (Rus))

(MICE,  
transm. of dysentery (Rus))

NESTEROVODSKAYA, Ye.M.; ALEKSEYENKO, I.S.

Mass detection of the mite *Dermanyssus avium et gallinae* in a Kiev institution. Med.paraz. i paraz.bol. 25 no.3:269-270 J1-S '56.  
(MLRA 9:10)

1. Iz parazitologicheskogo otdela Kiyevskoy gorodskoy sanitarno-epidemiologicheskoy stantsii (glavnyy vrach F.I.Yuvshenko) i kozhnogo dispansera bol'nitsy Leninskogo rayona Kiyeva (glavnyy vrach A.M.Bondarchuk)  
(KIEV---MITES)

L 04594.67

ACC NR: AF6033442

as in the analysis of radio communication. Orig. art. has: 20 formulas. 0

SUB CODE: 20, 09/ SUBM DATE: 10Apr65/ ORIG REF: 002 / ATD PRESS: 5100

Card 2/2 *HL*

L 04594-67 EWT(1)/I DF(2)  
ACC NR: AP6033442

SOURCE CODE: UR/0051/66/021/004/0487/0492

AUTHOR: Nesteruk, V. F.; Porfir'yeva, N. N.

ORG: none

TITLE: On the concept and definition of the contrast of the elements of the object and of the image

SOURCE: Optika i spektroskopiya, v. 21, no. 4, 1966, 487-492

TOPIC TAGS: statistic analysis, signal identification, image contrast

ABSTRACT: The article deals with the definition of a quantitative measure of the contrast between two elements of the object or of the image in the case when the brightness is subject to fluctuations. It is pointed out that although the standard definition of contrast is straightforward, it holds only for simple elements, and that in practice the measured elements have a complicated brightness distribution. Furthermore, there is a psychological tendency to allot to the background, against which the contrast is measured, a larger field than to the measured object. Brightness fluctuations introduce a stochastic element into the definition of contrast, which can no longer assume a unique value. Using the analogy between this problem and that of testing statistical hypotheses, a new definition of contrast is proposed, and the use of this definition for experimental verification of the presence of contrast is described. Although the problem and its solution are treated in terms of optics, the results hold equally well for other applications dealing with fluctuating signals, such

Card 1/2

UDC: 621.391.837.32: 535.01

NESTERUK, V.F.

Optimal pulse shape in a limiter-filter system. Radiotekhnika 20  
no. 9:47-48 1965. (MIRA 18:8)

1. Deystvitel'nyy chlen Nauchno-tekhnicheskogo obshchestva  
radio'tekhniki i elektrosvyazi imeni Popova.

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700026-6

2

assumed to be additive, uncorrelated, having a normal distribution, and a specified correlation matrix. Relations (20-25) describing the probability of correct detection are developed, and the contrast method is compared with a "full-information" method (the latter is an optimal self-adaptive method in which the threshold function is proportional to the noise power is determined automatically). Eng. Appendix 2, figures and 25 formulas.

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi (Scientific and Technical Society of Radio Engineering and Electrocommunication)

STANDARD: GOST 305-63

ENCL: 00

SUB CODE: DC, NG

NO REF COPY: 007

OTHER: 001

55

2. 2/12/82 000-2/00000 /000-2/00000 /000-2/00000 /000-2/00000 29  
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 000-2/00000 /000-2/00000 /000-2/00000 /000-2/00000 17  
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AUTHORS: Neznanov, V. F. (Active member); Pavlov, N. N. (Active member)

TITLE: Statistical reception of a random-phase pulse signal with correlated noise  
 as a background. [Reported at the 16th Scientific and Technical Conference,  
 Moscow, January-April 1965]

SOURCE: Radioelektronika, v. 20, no. 5, 1965, 53-59

TOPIC TAGS: signal reception, signal reception, statistical reception

ABSTRACT: The statistical detection of a random-phase single-pulse signal with a normal correlated-noise as a background is considered. The principle of operation of the radar receiving system is independent of the noise power; the detection about the presence or absence of a signal in a point 1 is made on the basis of comparing the given amplitudes or contrasts in points 1 and 2; the signals from these points are assumed to be statistically independent. The noise is

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L 5253-66 EWT(d)

ACC NR: AP5025644

SOURCE CODE: UR/0106/65/000/010/0009/0012

AUTHOR: Nesteruk, V. F.

ORG: none

TITLE: Invariant conditions of operation of an ideal Kotel'nikov receiver

SOURCE: Elektrosvyaz', no. 10, 1965, 9-12

TOPIC TAGS: radio receiver

ABSTRACT: The independence of operation of an ideal Kotel'nikov receiver of the noise power, under certain conditions, is theoretically analyzed. It is found that: (1) The ideal receiver operating with equally probable coherent signals is the only Bayes -type receiver that has invariance; (2) The ideal receiver may exhibit invariant operation when signals have random phases and when incoherent signals fade; in both cases, the invariant operation depends on the equal probability of the signals and on the equality of their average energies; (3) The invariant operation is also possible in the case of correlated noise; with coherent signals, the invariant operation is predicated upon the equality of a-priori probabilities. Orig. art. has: 11 formulas.

~~Card 1/2~~

UDC: 621.391.171

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ACCESSION NR: AP4036518

can be approximately determined. One-level quantization results in a relatively simple scheme with no necessity for retaining the shape of the realization through the delay line; moreover, the multiplication operation is reduced to a simple coincidence operation. To increase the accuracy of the readings, not only amplitude quantization but also time quantization is used, which permits reducing the procedure of taking readings to counting the number of pulses. The design permits determining the correlation functions of stationary random processes with a mean-square value of about 40 v and 1 microsec — 20 sec or longer time. The maximum over-all error is claimed to be 15%. Orig. art. has: 7 figures and 3 formulas.

ASSOCIATION: none

SUBMITTED: 01Oct62

DATE ACQ: 03Jun64

ENCL: 00

SUB CODE: DP

NO REF SOV: 007

OTHER: 000

Card 2/2

ACCESSION NR: AP4036518

S/0103/64/025/005/0727/0732

AUTHOR: Kuz'michev, V. N. (Leningrad); Nesteruk, V. F. (Leningrad)

TITLE: Methods and an outfit for determining correlation functions of normal and pulsed random processes

SOURCE: Avtomatika i telemekhanika, v. 25, no. 5, 1964, 727-732

TOPIC TAGS: correlation, correlation function, correlator, random process correlator

ABSTRACT: A correlator intended for obtaining the correlation functions of normal random processes is described; the same instrument can determine the correlation functions of various packets of constant-amplitude pulse signals (generalized telegraph signals, chaotic signal trains, etc.). In the above cases, the correlation functions are determined exactly, thanks to the principle of operation of the instrument; for other classes of random processes, the functions

NESTERUK, V.F.

Use of a pulse batch in the presence of correlated noise.  
Radiotekhnika 18 no.8:10-16 Ag '63. (MIRA 16:10)

1. Deystvitel'nyy chlen Nauchno-tekhnicheskogo obshchestva  
radiotekhniki i elektrosvyazi imeni Popova.

L 15166-63

ACCESSION NR: AH3003347

an ionic multiplier is connected to the output of the detector it reaches 400--500.  
The effect of the resonator, detector, and the source of the spectroscopy on the  
signal to noise ratio is considered. V. Zolin

DATE ACQ: 17Jun63

SUB CODE: PH

ENCL: 00

Card 2/2

L 15166-53

BDS

ACCESSION NR: AR3003347

S/0058/53/000/005/H043/H043

SOURCE: RZh. Fizika, Abs. 5Zh252

49

AUTHOR: Porfir'yeva, N. N.; Nesteruk, V. F.

TITLE: Procedure for investigation of spectral lines of alkali metal atoms for a specified signal to noise ratio at the output of an atom beam radiospectroscope detector

CITED SOURCE: Tr. Leningr. korablestroit. in-ta, vy'p. 36, 1962, 143-148

TOPIC TAGS: atomic beam spectroscope, operating characteristic, optimal operation, signal to noise ratio

TRANSLATION: In order to determine the optimal operating conditions of an atomic-beam radiospectroscope, the principal relationships which determine the signal/noise ratio during the observation of spectral lines of the alkali elements are calculated. An estimate is made of the spectroscope intrinsic noise due to the fluctuations in the number of molecules reaching the ionization chamber of the detector, under the condition that an active resistance is connected to the output of the detector. For real spectroscope parameters, the signal to noise ratio is 20 and when

Card 1/2

3/058/63/000/002/060/070  
A160/A161

AUTHOR: Nesteruk, V. F.

TITLE: The theory of the reception of low-frequency radio signals of a random shape

PERIODICAL: Referativnyy zhurnal, Fizika, no. 2, 1963, 14, abstract 2Zh92  
("Tr. Leningr. korablestroit. in-ta", 1962, no. 36, 135 - 141)

TEXT: An investigation is conducted of the optimum reception of a low-frequency signal of a random shape. It is shown that the effective signal-to-noise ratio at the output of the optimum receiver (i.e. the receiver calculating the probability coefficient) is proportional to the number of readings  $H(N)$ . However, the block diagram of such a receiver becomes extremely complicated at a high  $N$ . Therefore, a narrow-sector receiver is investigated, whose noiseproof feature is close to the noiseproof feature of an optimum receiver. A description is given of the block diagram of a narrow-sector receiver. It is shown that such a receiver has a narrower directivity characteristic in case the signal is of a random shape.

[Abstracter's note: Complete translation]

Yu. Parayev

Card 1/1

Some problems of the theory of detecting single pulses A160/A101

3/052/02/000/002/000/070

The interferences are considered to be additive stationary Gauss processes. Discussed are the block diagrams of receivers providing for an optimum detection. It is particularly indicated that the receiver for the case of a simple asynchronous detection differs from a receiver for a complex asynchronous detection by only one nonlinear unit with an exponential characteristic.

Yu. Parayev

[Abstracter's note: Complete translation]

Card 2/2

S/058/63/000/002/059/070  
A160/A101

AUTHORS: Nesteruk, V. F., Profir'yeva, N. N.

TITLE: Some problems of the theory of detecting single pulses

PERIODICAL: Referativnyy zhurnal, Fizika, no. 2, 1963, 14, abstract 2Zh91  
("Tr. Leningr. korablestroit. in-ta", 1962, no. 36, 121 - 133)

TEXT: This is a systematic exposition of the problem regarding the optimum receiver which secures the maximum probability of correct detecting  $D$  of a single pulse on the background of interferences at a given magnitude of the observation interval  $T$  and of the probability of false alarms  $F$ . The detection parameter is introduced, and the effective signal-to-noise ratio at the output of the optimum receiver is calculated. Investigated are four types of signal shapes: 1) signals exactly known for the time interval  $T$  (simple synchronous detection); 2) signals of a random shape, the moment of appearance of which is exactly known (complex synchronous detection); 3) signals of a random shape and a random moment of appearance (complex asynchronous detection); 4) signals of a known shape and a random moment of appearance (simple asynchronous detection).

Card 1/2

L 10043-63

ACCESSION NR: AR3000391

with fixed amplitude and duration; 3) generation of random sequence of video pulses with high-frequency carrier of any specified waveform: 4) modulation of continuous-wave generators. A. Grasyuk

DATE ACQ: 14May63 ENCL: 00

SUB CODE: PH

cs/ja  
Card 2/2

EWI(1)/BDS--AFPTC/ASD

1.10013-63

ACQUISITION Nr: AR3000391

S/0058/63/000/004/H041/H041

53

SOURCE: Zh. Fizika, Abs. 4Zh246

AUTHOR: Nesteruk, V. F.; Porfir'yeva, N. N.; Finagin, B. A.

TITLE: Method for generating random pulses, using the discreteness of optical radiation in the master process

CITED SOURCE: Tr. Leningr. korablestroit. in-ta, vyp. 36, 1962, 107-109

TOPIC TAGS: random pulse generation, optical source, modulation

TRANSLATION: A method is described for generating random pulses, using the discrete nature of optical radiation. The master device is a low-power incandescent lamp rated about one watt. The light from the radiation source is incident on a gas-discharge photon-energy converter or a photomultiplier. The pulses obtained are amplified 20 -- 30 db and are fed to shaping stages. The main methods of utilizing such a generator are indicated: 1) generation of a generalized telegraph signal; 2) generation of a "random sequence" of pulses

Card 1/2

NESTERUK, V.F.; PORFIR'YEVA, N.N.

Selecting optimum conditions in the statistical evaluation of  
parameters. Trudy LKI no.35:139-143 '62. (MIRA 16:7)

1. Kafedra fiziki Leningradskogo korablestroitel'nogo instituta.  
(Mathematical statistics)

S/108/62/017/006/003/007  
D407/D301

On the theory of ...

shape depends on the noise-correlation function  $R_1(t-s)$ . In actual calculations, it is necessary to solve eq. (19). No general method of solution of eq. (19) is available; yet in many cases which are of interest in practice, the solutions for various kernels  $R_1$  have been found (in the references). An example is considered. The most important English-language publication reads as follows: D. Middleton, "Statistical theory of signal detection" (in Russian translation, IIL, 1960).

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im. A.S. Popova (Scientific and Technical Society of Radio Engineering and Electrical Communications imeni A.S. Popov)

SUBMITTED: October 10, 1960 (initially)  
January 15, 1962 (after revision)

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S/108/62/017/006/003/007  
D407/D301

On the theory of ...

Thus, one takes as the signal shape the eigenfunction of eq. (14) corresponding to the eigenvalue which satisfies condition (15). The effective signal-to-noise ratio is rewritten in the form

$$P = \frac{P_0 P_1}{P_0 + P_1}, \quad (21)$$

where  $P_0 = 2E/N_0$  ( $N_0$  denoting the power of the white noise per unit frequency-band), and  $P_1 = \sum_k \Lambda_k E$ ,  $\Lambda_k$  being the eigenvalues of

$$B(t) = \Lambda \int_0^T R_1(t-s) B(s) ds. \quad (19)$$

The quantity  $P_1$  determines the detection parameter in the presence of the correlated noises only. It is noted that the signal shape depends on  $P_1$  only; from eq. (19) it follows that the optimal signal

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S/108/62/017/006/003/007  
D407/D301

On the theory of ...

characteristic  $D$  depends on the parameter  $\rho(m)$  (the effective signal-to-noise ratio). It is required to select a signal  $m^*(t)$  so that  $D \geq D'$  (i.e.  $\rho \geq \rho'$ ). Thereby one proceeds as follows. The homogeneous integral equation

$$B(t) = \lambda \int_0^T R(t-s) B(s) ds. \quad (14)$$

is considered, where  $R$  is the correlation function for  $n(t)$ . The eigenfunctions of eq. (14) are denoted by  $B_1(t)$ ,  $B_2(t)$ , ..., and the corresponding eigenvalues -- by  $\lambda_1 \leq \lambda_2 \leq \dots$ . The eigenvalue  $\lambda_k$  is chosen so that

$$\lambda_k E \geq \rho', \quad (15)$$

where  $E$  is the energy. By virtue of the extremal properties of the eigenfunctions and eigenvalues of the positive-definite integral form for  $\rho(m)$ , one obtains

$$m^*(t) = B_k(t). \quad (17)$$

Card 2/4

3726

S/108/62/017/006/003/007  
D407/D301

6.9200

AUTHOR: Nesteruk, V.F., Member of the Society (see Association)

TITLE: On the theory of signal reception in the presence of correlated noises

PERIODICAL: Radiotekhnika, v. 17, no. 6, 1962, 19 - 23

TEXT: The signal shape is determined which ensures that the probability  $D$  of correct detection exceeds a pre-assigned quantity  $D'$  in the presence of normal mixed noises. An illustrative example is considered. In practice, it is important to improve signal detection by appropriate choice of the signal shape, without increasing its energy. The signal which arrives at the receiver consists of the useful signal  $m(t)$  and of the noise  $n(t)$ ;  $n(t)$  is a mixed noise, i.e. it has 2 independent components: the white noise  $n_0(t)$  and the correlated noise  $n_1(t)$ . Formulas of D.Middleton are used (Ref. 3: "Statistical theory of signal detection", translated into Russian). Hence follows that the detection

Card 1/4

NESTERUK, V.F.; PROFIR'YEVA, N.M.

Method for determining the correlation function of normal random processes. Izv.vys.ucheb.zav.; prob. 5 no.6:55-57 '62. (MIRA 15:12)

1. Leningradskiy korablestroitel'nyy institut. Rekomendovana kafedroy fiziki.

(Random processes)

NESTERUK, V.F.

Interference rejection of the reception of signals with discrete values in the presence of correlated noise. Izv.vys.ucheb.zav.; radiotekh. 5 no.5:596-602 S-0 '62. (MJRA 15:11)

1. Rekomendovana kafedroy fiziki Leningradskogo korablestroitel'nogo instituta.

(Radio) (Information theory)

S/058/62/000/11/036/068  
A062/A101

Detecting weak signals by...

separately to the noise with an average power  $\sigma_n^2$  and to the sum of the signal and the noise, one can write  $\bar{N}_n = 4FTU_0 / \sqrt{2\pi\sigma_n^2}$ ,  $\bar{N}_{s+n} = 4FTU_0 / \sqrt{2\pi(\sigma_s^2 + \sigma_n^2)}$ . Hence

$$\sigma_s^2 = 8/\pi (FTU_0)^2 (1/\bar{N}_{s+n} - 1/\bar{N}_n).$$

The quantities  $\bar{N}_n$  and  $\bar{N}_{s+n}$  can be easily measured. The error probability is determined by the formula

$$P_{err} = 1 - \Phi \left( \frac{\epsilon}{2} \frac{\sigma_s^2}{\sigma_n^2} \sqrt{\frac{\bar{N}_n}{2}} \right)$$

wherein  $\epsilon$  is the precision of the measurements, and  $\Phi(x)$  the probability integral. In the measurements use is made of the method of storing results of successive tests. The random signal which enters the amplifier input is transformed at the output into a series of successive pulses. Those pulses whose amplitude lies in the interval  $(-U_0, U_0)$  enter into a memory device of discrete action.

V. T.

[Abstracter's note: Complete translation]

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40162

S/058/62/005/007/005/008  
AC62/A161

6.9460

AUTHOR: Nesteruk, V. F.

TITLE: Detecting weak signals by the method of storing the results of successive tests

PERIODICAL: Referativnyy zhurnal, Fizika, no. 7, 1962, 14, abstract 7Zh91  
("Sb. tr. XIII Leningr. nauchno-tekhn. konferentsii. posvyashchennyy dnyu radio", Leningrad, 1959, 69 - 72)

TEXT: A method is proposed for measuring the average power of weak noise signals on the background of large fluctuating interferences by storing the results of successive tests. The signal to be measured, having an average power of  $\sigma_s^2$  is passed through a low-frequency amplifier having a frequency band from 0 to F. The probability that at any moment the tension  $U(t)$  of the signal at the input of the amplifier is comprised in the interval  $(-U_0, U_0)$  with  $2U_0/\sqrt{2\sigma_s^2} = 1$  is determined by the approximate formula  $P(-U_0 \leq U \leq U_0) = 2U_0/\sqrt{2\sigma_s^2}$ . If the time of measurement is long enough, then the average number of values, falling in the indicated interval, is equal to  $N = 2F \cdot 2U_0/\sqrt{2\sigma_s^2}$ . Applying this formula

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S/044/62/000/007/047/100  
C111/C333

A problem of the statistical . . .

tion (for both hypotheses) depend on parameters  $f_1$  and  $p_1$ . To determine the latter one must know the inverse matrix of the correlation matrix of the values  $n(t_1)$ . Thereafter, the authors obtain the estimates for the parameters  $x$  and  $y$  with the smallest mean quadratic deviation from the true value. Here the estimates themselves as well as their mean quadratic deviations also depend on  $f_1$  and  $p_1$ . Finally, the authors make some not quite rigorous comments on extending the obtained results to the case where a continuous realization  $s(t)$  replaces the discrete observations  $\{s_i\}$ .

[Abstracter's note: Complete translation.]

16.600

S/044/62/000/007/047/100  
C111/0333

AUTHORS: Nesteruk, V. F., Porfir'yeva, N. N.  
TITLE: A problem of the statistical estimation of parameters  
PERIODICAL: Referativnyy zhurnal, Matematika, no. 7, 1962, 14-15,  
abstract 7V63. ("Tr. Leningr. korablestroit. in-ta",  
1961, no. 33, 105-113)

TEXT: Let  $s_1, \dots, s_n$  be a sample according to which the two hypotheses  $H_0$  and  $H_1$  are to be tested. According to hypothesis  $H_0$ , the values  $\{s_i\}$  are the realisation of a Gaussian stationary process  $n(t)$  with a known correlation function and the mean value zero. According to  $H_1$  the values  $\{s_i\}$  are the realisation of the process  $n(t) + x(t) + y \cdot \psi(t)$ , where  $\psi, \psi'$  are known functions and  $x, y$  are independent (from  $n(t)$  also independent) normal  $(0, 1)$  quantities. The realisations take place at certain discrete times  $\{t_i\}$ . The probability ratio and its distribution function, which turns out to be a tabulated function, are determined. The probability ratio as well as its distribution function are determined. The probability ratio as well as its distribution function are determined.  
Card 1/2

[illegible]

### THEORY OF OPTIMAL ...

$$D = D(F; \varphi, H).$$

[illegible]

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S/209/61/006/007/004/020  
D262/D306

Theory of optimal ...

$\alpha_2$  and  $\sigma_2$  are evaluated as well as  $\alpha_1$  and  $\sigma_1$ . Eliminating  $\varphi_0$  the characteristic of detection of a composite signal will depend in a general case on  $2H$  parameters

$$D = D(F; u_1, \dots, u_H; v_1, \dots, v_H). \quad (33)$$

In many cases this number can be decreased, e.g. assuming that  $\sigma_1^2 \approx \sigma_2^2$  the single parameter which in effect is the effective signal to noise ratio is

$$d = \frac{(a_1 - a_2)^2}{\sigma_1^2} \approx \frac{(a_1 - a_2)^2}{\sigma_2^2}. \quad (34)$$

$$A_1 = \left[ \frac{1+\gamma}{\gamma} \rho \right]^{\frac{1}{2}}, \quad A_2 = \left[ \frac{\rho}{\gamma(1+\gamma)} \right]^{\frac{1}{2}}. \quad (45)$$

is finally obtained, from which it is seen that the detection characteristic will have three parameters

Card 6/7

Theory of optimal ...

3/109/61/006/007/004/020  
D232/D306

ther analysis it is necessary to determine the statistical properties of  $W_\alpha$  and  $\varphi$ . It is pointed out that the random magnitudes  $W_\alpha$  are not correlated and, being normal, they are independent. According to Eqs. (18), (20) and (21) an optimal receiver can detect the presence or absence of wanted signal according to: if  $\varphi \geq \varphi_0$  then  $s = M + n$ ; if  $\varphi < \varphi_0$  then  $s = n$ , where  $\varphi_0$  is the threshold level of  $\varphi$ . If  $H$  is a large number and if  $\varphi$  is approximated by the gaussian law using the Lyapunov theorem [Abstractor's note: Not stated], the determination of  $H$ , for given probability of correct detection  $D$ , probability of false detection  $F$  and given values of  $a_1$ ,  $a_2$ ,  $\sigma_1^2$  and  $\sigma_2^2$  together with normal approximation of  $\varphi$  distribution, is given in A.A. Petrov (Ref. 8: Proverka statisticheskikh gipotez o tipe raspredeleniya po malym vyborkam. Teoria veroyatnostey i yeye primeneniya, 1956, 1, 2, 248). For values of  $D = 0.9$  it can be taken as approximation  $H \approx 20$ . Assuming that distribution function varies slowly for small  $F$  and assuming an accuracy of the order of 10 %,

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Theory of optimal ....

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where

$$\begin{pmatrix} x_a = \sum_{i=1}^H C_{ia} s_i; & v_a = \sum_{i=1}^H C_{ia} m_i. \end{pmatrix} \quad (19)$$

It follows from Eq. (19) for  $v_a$ , that  $v_a$  does not depend on input signal  $s(t)$ . It also follows from (18) that  $l(s)$  monotonically increases from the value

$$\varphi = \sum_{a=1}^H W_a^2, \quad (20)$$

where

$$W_a = \frac{1}{\sqrt{1+u_a}} (x_a + u_a v_a). \quad (21)$$

Expressions (20) and (21) determine the design of optimal receiver for detecting a composite signal [Abstractor's note: The term "composite signal" has a different meaning in V.A. Kotelnikov (Ref. 1: Teoria potentsiyal'noy pomekhoustoychivosti, GEI, 1956)]. For further Card 4/7

Theory of optimal ...

8/109/61/006/007/004/020  
D262/D306

$$K(t) = m(t) + p(t), \quad (4)$$

in which  $m(t)$  - function of time with fully known parameters;  $p(t)$  - a static gaussian random function with a given multi-dimensional distribution function of the probability density. It is further assumed that random functions  $n(t)$  and  $p(t)$  are statistically independent, with their average values equal to zero. The probability coefficient is determined assuming  $H$  measurements of instantaneous values of random function  $s(t)$  at discrete instants  $t_k = k \Delta t$  ( $k = 1, 2, \dots, H$ ;  $H \Delta t = T$  where  $T$  is the measurement period). The expression for the probability factor  $l(s)$  is obtained in the form of

$$l(s) = \frac{\text{Det}[R^n]^{\frac{1}{2}}}{\text{Det}[R^n]^{\frac{1}{2}} \prod_{\alpha=1}^H \sqrt{1+u_\alpha}} \times \quad (18)$$

$$\times \exp \frac{1}{2} \left\{ \sum_{\alpha=1}^H \left( \frac{x_\alpha}{\sqrt{1+u_\alpha}} + \frac{u_\alpha}{\sqrt{1+u_\alpha}} v_\alpha \right)^2 - \sum_{\alpha=1}^H v_\alpha^2 u_\alpha \right\},$$

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2006 S/109/61/006/007/004/020  
D262/D306

Theory of optimal ...

which the receiver must give the answer as to whether, with  $s(t)$  as its input,  $M(t)$  is present or not. According to the theory an optimal receiver which secures the maximum probability of correct detection  $D$  for given probability of false signal  $F$  and for the given analysis time  $T$ , should be designed in such a manner as to form at its output the probability coefficient

$$l(s) = \int \dots \int \frac{P_{M+n}(s)}{P_n(s)} P(M_1, \dots, M_k) dM_1 \dots dM_k, \quad (2)$$

where  $P_{M+n}(s)$  - the probability function of  $s$  with  $M(t)$ , and  $n(t)$  being present at the input;  $P_n(s)$  - the probability function of  $s$  with only noise  $n(t)$  present at the input, and  $P(M_1, \dots, M_k)$  - the distribution of the unknown parameters of useful signal. In the present article the solution of the problem of detection is given for the following assumptions.  $n(t)$  is a static gaussian random function and the useful signal  $M(t)$  is a composite one, i.e.

Card 2/7

6.9200

S/109/61/006/007/004/020  
D262/D306

AUTHOR: Nesteruk, V.F.

TITLE: Theory of optimal detection of composite signal in the presence of correlated interference

PERIODICAL: Radiotekhnika i elektronika, v. 6, no. 7, 1961,  
1055 - 1062

TEXT: The statistical problem of detection of the signal on the background of fluctuating interference is as follows: the input  $s(t)$  at the input of the receiver consists of the wanted signal  $M(t)$  and interference  $n(t)$  so that

$$s(t) = M(t) + n(t). \quad (1)$$

It is assumed that the interference is a random function of time having a multi-dimensional function of order  $H$  of the probability density distribution.  $M(t)$  is assumed to be dependent on several known and unknown parameters. The observation period is  $T$ , during

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The principle of instrument ...

28902

S/146/61/004/003/012/013  
D217/D301

from the work of V. Elmor and M. Senda (Ref. 5: Elektronika v yadernoy fizike (Electron in Nuclear Physics), I.L. 1953). The block diagram (Fig. 1) is presented as the following elements in series: I - radioactive source, II - intensity regulator, III- energy converter, IV - pulse amplifier, to ascertain triggers work, V - release system with triggers shaping GTS, VI - energy amplifier with attenuator. Between IV and V is inserted VII - frequency meter measuring  $\mu$  and after VI is VIII - Amplitude H meter. To start the generation of random amplitude signals it is necessary 1) to put III in condition of work by anode voltage, 2) to exclude the triggering cell, fixing amplitude. There are 1 figure and 5 Soviet-bloc references. X

SUBMITTED: December 10, 1960

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2762  
S/146/61/004/003/012/013  
D217/D301

The principle of instrument ...

advantages: 1) It is a purely statistical process with binomial distribution. 2) Any statistical law may be fulfilled as the process is not affected by external phenomena such as electrical and magnetic fields, temperature, pressure or vibration etc. 3) The elementary process of decay is accompanied by sufficient energy for recording. 4) Many processes are known with a half life  $T_0$  from

$\mu$  secs. to millions of years. Hence they may be used either for stationary random processes or for an ensemble of random signals with any statistical distribution. The correlation function of GTS

is  $R(\tau) = H^2 e^{-2\mu\tau}$ , where  $H$  - amplitude,  $\mu = k\bar{n}$ ,  $k < 1$  ratio of the number of pulses from the counter to the average number decays  $\bar{n}$ . For a process of changing amplitudes, one has a signal of the sequential system (SSS) and the correlation function  $R(\tau) =$

$= H^2 e^{-\mu\tau}$ . Both processes are Markov's. Any generator GTS must have elements controlling  $H$  and  $\mu$ . For  $H$  - attenuator,  $\mu$  - absorber, different thicknesses  $d$ ,  $\mu = \mu_0 e^{-\mu_0 d}$ . The information was obtained

Card 2/4

28962

S/146/61/004/003/012/013  
D217/D301

9.6002 (1013, 1049, 1087)

AUTHORS: Nesteruk, V.F., Porfir'yeva, N.N., and Finagin, B.A.

TITLE: The principle of instrument construction for generating the random shape of electrical signals, based on the application of radio active decay as a starting point

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye, v. 4, no. 3, 1961, 135 - 140

TEXT: The standard signals are sinusoidal oscillations, step functions, uniting pulse, or pulse sequences. Standard signals may be of a statistical character. A classical example of standard random signals is the generalized telegraph signal (GTS) or signals of limited speech. It may track only two values  $+U_0$  and  $-U_0$  but the times of sign change are at random and follow Poisson's law. The use of radioactive decay for random signals has the following advantages:  
Card 1/4

S/146/60/003/004/009/010  
B004/B056

AUTHORS: Kuz'michev, V. N., Nesteruk, V. F.

TITLE: Measurement of the Frequency of a Pulse Train With Large Reciprocal of the Pulse Duty Factor by Means of a Standard Frequency Meter

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye, 1960, Vol. 3, No. 4, pp. 106-107

TEXT: The standard frequency meters of the types ИЧ-5 (ICH-5) and ИЧ-6 (ICH-6) permit only the measurement of voltage pulses in which the ratio between the durations of the positive and of the negative part of the period is between  $1/3$  and  $3$ . By connecting a trigger in series, the upper limit of measurement of these apparatus may, however, be increased to 400 kc/sec. A 6Н1П (6N1P) tube is used in the trigger circuit. The present paper is recommended by the kafedra fiziki (Chair of Physics). There are 2 Soviet references. ✓

*Assoc. Leningrad Inst. of Shipbuilding*  
~~Card 1/2~~

NESTERUK, V.F.

Measurement of weak radio signals. Trudy LKI no.29:245-249 '99.  
(MIRA 14:7)

1. Leningradskiy korablestroitel'nyy institut, kafedra fiziki.  
(Radio measurements)

NESTERUK, Y. F.

Секретное издание с целью распространения радио

А. В. Присяжко,  
В. Ф. Губанов

Некоторые вопросы теории распространения радиоволн при расхождении радиостанций УВЧ

А. В. Присяжко,  
В. М. Слободкин,  
М. П. Леонов

Экспериментальное исследование распространения радиоволн при наличии трансформации радиостанций УВЧ

(с 12 до 16 часов)

В. Ф. Нестерук

Об экспериментальном методе обнаружения радиосигнала из фазы шума

Н. А. Леонов

Потери энергии в антеннах и аппаратуре при приеме сигнала из фазы шума

9 июня  
(с 18 до 22 часов)

44

С. М. Давыдов (Челюскинцев)

Граничные преобразования в некоторых из радиостанций

А. Г. Давыдов

Расчет частотных характеристик некоторых типов радиостанций многооблучения

Д. Е. Вайман

К расчету переходных процессов при частотной модуляции

10 июня  
(с 10 до 16 часов)

Л. Л. Микшинов

Атмосферные радиосигналы и их влияние на радиостанции

В. Е. Шибановский,  
Г. С. Микшинов

Двухрезонаторные и многорезонаторные квантовые усилители

В. М. Турецкий

К вопросу об оптимальных методах приема радиосигналов в условиях многолучевых колебаний

45

report submitted for the Centennial Meeting of the Scientific Technological Society of  
Radio Engineering and Electrical Communications in A. S. Popov (VSEIE), Moscow,  
8-12 June, 1959

MGELADZE, V. F., NESTERUK, V. F. (IKU, Leningrad)

"Some Methods of Detecting and Measuring Weak Signals."

report presented at the All-Union Conference on Statistical Radio Physics,  
Gor'kiy, 13-18 October 1958. (Izv. vyssh uchev zaved-Radiotekh., vol. 2,  
No. 1, pp 121-127) COMPLETE card under STEPOROV, V. I.)

ACC NR: AP6036170

underneath the cloud and as far down as one third of its thickness; 4) icing of the front windows and rotor blades reaches a dangerous level at temperatures of -2C and below, and therefore they should be carefully predicted by the synoptic meteorologists who prepare weather charts for helicopter flights. Orig. art. has: 2 tables.

SUB CODE: 01, 04/ SUBM DATE: none/

Card 2/2

ACC NR: AP6036170

SOURCE CODE: UR/0209/66/000/011/0032/0035

AUTHOR: Nesteruk, V. (Engineer; Captain)

ORG: none

TITLE: Weather and helicopter flights

SOURCE: Aviatsiya i kosmonavtika, no. 11, 1966, 32-35

TOPIC TAGS: helicopter, ~~weather requirement~~, flight mechanics, atmospheric pressure, ~~helicopter~~, aeronautic meteorology, wind velocity, diurnal variation

ABSTRACT: The flight characteristics of a helicopter in great measure depend on the air temperature. It has been noted that temperature variations of 10C change a helicopter's payload lifting capacity by 12 to 14%. Changes in pressure affect helicopter flight at low altitudes and therefore the pressure field should be studied carefully along the entire flight route. Other weather elements specifically considered for forecasting helicopter flight conditions and for the MI-4 helicopter, particularly are: 1) wind velocity, direction, and diurnal variations, keeping in mind that velocities up to 10 m/sec increase the lifting power of the helicopter but that greater velocities may produce roll; 2) visibility when it is snowing with head winds of 5 to 7 m/sec is fair; however, visibility may become poor at lower wind velocity; 3) forecasting bumpy air over level terrain is closely related to the thickness of the cloud cover. Well developed cumulus clouds may produce moderate bumpiness

Card 1/2

OVSIIY, I.; NESTERUK, V. ....

Chilling hog carcasses before skinning. Mias.ind. SSSR 34 no.1:52 '63.  
(MIRA 16:4)

1. Vinnitskiy myasokombinat.  
(Slaughtering and slaughterhouses)

NESTERUK, Konstanty; MARKS, Jerzy

Pressed barium getters. Przegl elektroniki 4 no. 2: 96-98  
'63.

1. Przemyslowy Instytut Elektroniki, Warszawa.

FRYSZMAN, Andrzej; KASPROWICZ, Z.; NESTERUK, Konstanty

Low-heating-power cathodes for oscilloscope and  
kinescope tubes and vidicons. Przegl elektroniki  
3 no.11:665-666 N '62.

1. Przemyslowy Instytut Elektroniki, Warszawa.

NESTERUK, Konstanty, MARKS, Jerzy

"Ceto" getter with increased activity. Przegl elektroniki 3  
no.9:512-513 S '62.

1. Przemyslowy Instytut Elektroniki, Warszawa.

Technology of the Ceto gas-absorber  
at 200 - 300°C.

S/194/62/000/010/034/004  
A064/A126

I.M.

[Abstracter's note: Complete translation]

Card 2/2

S/194/62/000/010/034/084  
A064/A126

AUTHORS: Nesteruk, Konstanty, Marks, Jerzy

TITLE: Technology of the Ceto gas-absorber

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 10, 1962,  
15 - 16, abstract 10-3-30yu (Prace Przemysł. inst. elektron., 1960,  
v. 1, no. 7, 79 - 80; Polish)

TEXT: For several years now the Ceto gas-absorber is an object of constant investigations and improvements. Certain stages of its production process have been investigated and there were indicated definitions of its absorption qualities relative to a number of gases ( $\text{CO}_2$ ,  $\text{H}_2$ ,  $\text{O}_2$  and  $\text{N}_2$ ) in the temperature range of 100 - 500°C. It was established that the use of originally clean materials and the execution of baking processes and activation in a high vacuum reduces the time and lowers the temperature of the processes; by observing these conditions one obtains gas-absorbers possessing a great activity. The addition of a few % of titanium hydride to the mixture of thorium powder with mischmetal-aluminum (or Ce-Al) is very economic. Since by doing this one obtains a gas-absorber very active

Card 1/2

41660

S/058/62/000/010/088/093  
A061/A101

AUTHORS: Nesteruk, Konstanty, Marks, Jerzy

TITLE: Technology of the "Ceto" getter

PERIODICAL: Referativnyy zhurnal, Fizika, no. 10, 1962, 15 - 16, abstract  
10-3-30yu ("Prace Przemysl. inst. elektron.", 1960, v. 1, no. 1,  
79 - 80, Polish)

TEXT: The "Ceto" getter has been the object of constant studies and improvements for a number of years. Some stages of its fabrication process have been examined, and its sorption properties with respect to a number of gases ( $\text{CO}_2$ ,  $\text{H}_2$ ,  $\text{O}_2$ , and  $\text{N}_2$ ) in the 100 - 500°C range have been determined. It has been established that the use of pure initial materials and the performing of sintering and activation processes in high vacuum reduces the time, and lowers the temperature, of these processes. A highly active getter is obtained when these conditions are complied with. The addition of some per cent of titanium hydride to a mixture of Th powders with a misch metal - aluminum (or Ce-Al) alloy is very expedient, since a getter being very active at temperatures of 200 - 300°C is then obtained.

[Abstracter's note: Complete translation]  
Card 1/1

I. M.

Pressed and dispersed getters

3/058/62/000/011/001/03;  
A061/A101

$10^{-5}$  mm Hg are determined as functions of the mirror temperature and the kind of gas. The results obtained show that the action of the getters under consideration is more effective than that of getters of the types Fe-Ba, Ni-Ba, etc. The investigation results have found confirmation in the industrial practice of electron tube manufacture.

I. N.

[Abstracter's note: Complete translation]

Card 2/2

41659

S/058/62/000/010/087/093

A061/A101

26, 2358  
AUTHORS: Nesteruk, Konstanty, Marks, Jerzy, Czarycki, Wenancjusz

TITLE: Pressed and dispersed getters

PERIODICAL: Referativnyy zhurnal, Fizika, no. 10, 1962, 15, abstract 10-3-30s  
(Prace Przemysl. inst. elektron.", 1960, v. 1, no. 1, 78 - 79,  
Polish)

TEXT: A number of improvements have been made in recent years in the production of dispersed barium getters. Pressed getters deserve special attention; in them, the barium source is a Ba-Al alloy in the form of the Ba-Al<sub>4</sub> compound which is resistant to atmospheric action, while its relatively high melting point permits good degasification of the getter prior to its flash. The addition of nickel powder exerts an additionally favorable effect on the barium flash process, and facilitates the pressing of the getter material in an annular shell. The annular shape is very advantageous from the viewpoint of the tube geometry, the possibility of obtaining a uniform and directional mirror, and the gradual barium flash. A fabrication technique for getters of this type is developed. Their principal characteristics and the absorption rate in a vacuum of

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NESTERUK, G., doktor tekhn. nauk

Pioneers of hydrological forecasting on rivers. *Izv. vuzov.*  
23 no.12345 1964. (C) 1964

NESTERUK, V.F.; PORFIR'YEVA, N.N.; FINAGIN, B.A.

Some remarks and additions to I.U.M. Bykov's article "Fluctuation noise generators for studying infra-low frequency control objects." Avtom. i telem. 24 no.1:116-117 Ja '63. (MIRA 16:1)  
(Oscillators, Electric) (Automatic control)

NESTERUK, F., doktor tekhn. nauk

Yenisey's past and future. Rech. transp. 22 no.4:34-35  
Ap '63. (MIRA 16:4)

(Yenisey River)

NESTERUK, F., doktor tekhn.nauk

Beginnings of printing in Moscow and the first Russian book on inland  
waterways. Rezh. transp. 22 no.3:42-44 Mr '63. (MIRA 16:4)  
(Inland navigation)

NESTERUK, F., doktor tekhn.nauk

Hydrostatics of Blaise Pascal; on the 300th anniversary of the  
death of the great French scientist and writer. Rech. transp.  
22 no.2:36-37 F '63. (MIRA 16:5)  
(Pascal, Blaise, 1623-1662)

NESTERUK, F., doktor tekhn. nauk

Daniel Bernoulli and his hydrodynamics." Rech. tranap. 22  
no. 1:50-52 Ja '53. (MIRA 16:2)  
(Bernoulli, Daniel, 1700-1782)

L 15541-63

ACCESSION NR: AP3004947

detecting the package among Markovian noise. It is indicated that the theoretical results obtained may be materialized by generating a pulse train with an assigned distribution of amplitudes and initial phases; the train envelope will also be determined by the antenna radiation pattern. Orig. art. has: 33 formulas.

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi (Scientific and Technical Society of Radio Engineering and Electrocommunication)

SUBMITTED: 18May62

DATE ACQ: 06Sep63

ENCL: 00

SUB CODE: CO, RA

NO REF SOV: 006

OTHER: 000

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L 15541-63 ENT(1)/ECS/EEC-2/EEC(b)-2 AFFIC/ASD P1-4  
ACCESSION NR: AP3004947 S/0108/63/018/008/0010/0016 60  
AUTHOR: Nesteruk, V. F. (Member of the Society, see "Association") 59  
TITLE: Receiving a pulse packet with correlated noise (Report at the 17th  
Scientific and Technical Conference, NTORIE im. A. S. Popov, Leningrad,  
April, 1962)  
SOURCE: Radiotekhnika, v. 18, no. 8, 1963, 10-16  
TOPIC TAGS: pulse packet, pulse packet reception  
ABSTRACT: Pulse packets consisting of similar-shape but different-amplitude  
pulses are investigated mathematically. Expressing the packet of coherent  
signals as a periodic pulse sequence and assuming that the noise is a steady-state  
normal random process, and assuming also that the signal and the noise are  
mutually additive, the problem is stated and solved in a general form. Then, the  
optimum configuration of the package is found, as well as the noise immunity in

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L 17288-63

ACCESSION NR: AP3004365

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is elaborated. Although infrared-signal reception (where all noise is correlated) is meant as a fundamental application of the theoretical results, they may also be helpful in studying the reception of a finite radar pulse pack on a random-clutter background. The method may help in finding optimum configuration of the pack with specified noise characteristics. The case of signals with random amplitudes and phases is also considered in the article. Orig. art. has: 37 formulas.

ASSOCIATION: none

SUBMITTED: 22Dec61

DATE ACQ: 20Aug63

ENCL: 00

SUB CODE: CO, RA

NO REF SOV: 005

OTHER: 001

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L 17288-43 HMT(1)/BDS/HEC-2/HEB-2 APFTC/ASD/ESD-3/APGC/AFML/  
 IJF(C)/HSD PJ-4/PK-4/PL-4/PN-4/PN-4 CC

ACCESSION NR: AP3004365

S/0109/63/008/008/1319/1325

83  
82

AUTHOR: Nesteruk, V. F.

TITLE: Effect of the shape signal on its detection with normal correlated noise

SOURCE: Radiotekhnika i elektronika, v. 8, no. 8, 1963, 1319-1325

TOPIC TAGS: signal shape, correlated noise, signal detection, infrared signal, radar

ABSTRACT: A useful-signal shape is theoretically found which ensures maximum probability of correct signal detection with a specified probability of false alarm and with some limitations regarding the class of signals used. These limitations are different for discrete-sample signals and for continuous-time-function signals. However, in both cases, the signal duration and equal signal energy are fixed. The discrete-sample case is solved completely and is brought to numerical form at least for three practical types of noise; an example of Markov's noise

Card 1/2

NESTERUK, Fedor Yakovlevich; KONTSEVAYA, E.M., red.izd-va; PRUSAKOVA,  
T.A., tekhn. red.; GUSEVA, A.P., tekhn. red.

[Hydroelectric power development in the U.S.S.R.] nazviti  
gidroenergetiki SSSR. Moskva, Izd-vo AN SSSR, 1963. 382 p.  
(MIRA 16:11)

(Hydroelectric power)

NESTERUK, F.Ya., doktor tekhn. nauk

Water resources of Transbaikalia. Trans. Baikal. 2. 1962. (N 13-9)  
'62.

NESTERUK, F.Ya.

Krenholm (Narva) hydroelectric power system. Trudy Inst. 1st. est.  
i tekhn. 44:275-291 '62. (MIRA 12:3)

NESTERUK, F., doktor tekhn.nauk

River system in the Republic of Ghana. Rech. transp.  
21 no.12:52-54 D '62. (MIRA 15:12)  
(Ghana--Rivers)

NESTERUK, F., doktor tekhn.nauk

Isaac Newton's immortal work. Rech.transp. 21 no.11:50-51  
N '62. (MIRA 15:11)  
(Newton, Sir Isaac, 1642-1727)

NESTERUK, F., doktor tekhn.nauk

Participation and role of navy personnel and engineers in the  
1812 Patriotic War. Rech. transp. 21 no.9:42-44 3 '62.  
(MIRA 15:9)  
(Russia--Invasion of 1812) (Russia--History, Naval)

NESTERUK, F., doktor tekhn.nauk

Discussion about bodies immersed in water and those that are in motion in it; 350th anniversary of Galileo's classical work on hydraulics. Rech.transp. 21 no.7:53-54 J1 '62. (MIRA 15:8)  
(Hydrostatics) (Floating bodies)

NESTERUK, F., doktor tekhn.nauk

Professor Fedor Grigor'evich Zbrozhek. Rech. transp. 21 no.5:  
45 My '62. (MIRA 15:5)

(Zbrozhek, Fedor Grigor'evich, 1849-1902)

NESTERUK, F., doktor tekhn.nauk

Archimedes and his treatise "On floating bodies." Rechn.transp  
21 no.4:42-44 Ap '62. (MIRA 15:4)  
(Archimedes) (Floating bodies)

NESTERUK, F., doktor tekhn.nauk

A.S.Pushkin's ancestors were outstanding engineers active in water supply engineering; on the 125th anniversary of the great poet's death. Rech. transp. 21 no.2:57-59 F '62. (MIRA 15:3)  
(Pushkin, Aleksandr Sergeevich, 1799-1837)

NESTERUK, F., doktor tekhn.nauk

Scientific ideas and works of M.V. Lomonosov on water resources  
and hydraulic engineering. Rech. transp. 20 no.11:44-46 N '61.  
(MIRA 15:1)

(Lomonosov, Mikhail Vasil'evich, 1711-1765)  
(**Hydraulic engineering**)  
(Hydrology)

NESTERUK, F., doktor tekhn.nauk; BAYBAROV, Ye., inzh.

African rivers and their water resources development. *rekl. tekhn.*  
20 no. 2: 51-56 4p '61. (USSR 1961)  
(Africa--Rivers) (Water resources development)

NESTERUK, F.Ya.

Development of hydroelectric power construction in the Chinese  
People's Republic. Iz ist.nauki i tekhn. stran.Vost. no.2:7-44  
'61. (MIRA 14:9)  
(China--Hydroelectric power stations) (China--Power resources)